

A New Species of *Phobetus*

(Coleoptera: Scarabaeidae)

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Investigation of the sand dune habitat in the Southwest has resulted in the discovery of several species of Scarabaeidae, some new (Hardy 1971, Howden and Hardy 1971). Recently a new species of *Phobetus* has been taken in this habitat.

Phobetus was revised by Barrett (1935), and later reworked by Cazier (1937b). With the exception of the description of *Phobetus comatus robinsoni* by Saylor (1939), nothing has since been published on this genus. The following observations concerning species belonging to Cazier's *comatus* group warrant note.

PHOBETUS SAYLORI Cazier

This species was described from a unique specimen taken at Little-rock, Los Angeles Co., California (Cazier 1937a). Cazier (1937b:84) reported an additional specimen from the same locality.

This species has been found in large numbers at Pinyon Flats, Riverside Co., California (also known as Seven Level Hills, Pines to Palms Highway), about 15 miles southwest of Palm Desert. I have examined additional specimens from Morongo Valley, San Bernardino Co., California. Dates of collection are mostly in April, however the range covers from February to May.

Cazier (1937b:77) has discussed the variability in the number of antennal segments of *Phobetus*, but no mention is made of variability in the number of segments of the club. Specimens from the type locality of *P. saylори* have the antennal club composed of three segments, as is typical of the other species of *Phobetus*. The examples from Morongo Valley have the beginnings of an additional segment, as the last segment of the flagellum before the club has become laterally elongated, to about one-third the length of the other segments of the club. This elongation is more pronounced in the Seven Level Hill population, with the segment usually at least three-fourths the length of the club, so that in fact the club could be considered to be four segmented.

Additional segments in the antennal clubs of the Pachydemini are not unusual. The Palearctic genera *Pachydema*, *Hemictenius*, *Tany-*

proctus and *Protoctenius* have five segmented clubs, while *Elaphocera* and *Pachydemocera* have seven segments (Medvedev 1952:17).

Following is a description of a new species of *Phobetus* with a five segmented club.

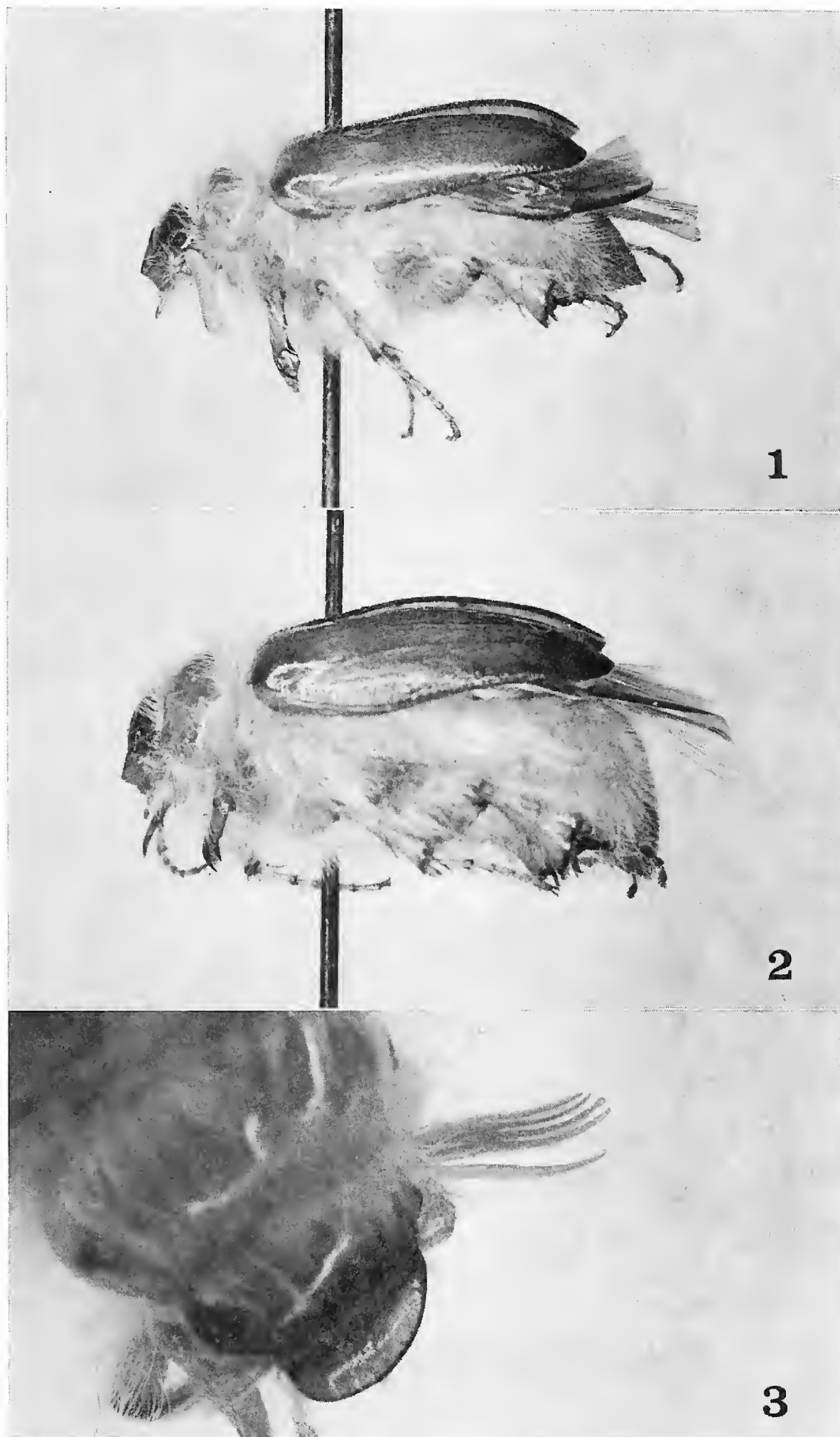
***Phobetus chearyi* Hardy, new species**

Holotype male.—Length 13 mm, width (elytra humeri) 5 mm. *Head*: Clypeus, antennae and ventral surfaces flavotestaceous; vertex rufopiceous. Scape, pedicel, mouthparts, and underside of reflexed anterior surface of clypeus with long white hairs. Labrum bilobed, tumid, produced anteriorly. Clypeus with median longitudinal impression, flanked by round impression on either side. Clypeus with few scattered fine punctures. Front and vertex laterally with scattered to close medium punctures. Antennae with five segmented club. *Prothorax*: Pale flavotestaceous. Disc glabrous, shining, with scattered fine punctures. Margins with numerous long white hairs meeting over top of prothorax. Ventral surface densely clothed with long white hairs. *Scutellum*: With white hairs posteriorly; polished, flavotestaceous; partially obscured by prothoracic hairs. *Elytra*: Disc shining, flavotestaceous, becoming brown at suture and along outer margins. Striae finely punctate, intervals plane with scattered fine punctures, each elytron with few scattered white hairs basally, glabrous apically. Outer margins with short, yellowish hairs, sutural margins with longer white hairs. *Thorax*: Underside densely clothed with long white hairs, polished, shining, flavotestaceous. *Abdomen*: Flavotestaceous, clothed with long white hairs, dense and scattered laterally, medially glabrous except for transverse row of white hairs on midline of each sternite. Pygidium with long white hairs scattered evenly over disc. *Legs*: Anterior femur ventrally with long white hairs, tibia bidentate, third tooth present only as faint projection on outer margin of tibia; tibial teeth testaceous. Apical spur shorter than tibial teeth. Tarsal claws deeply cleft, median tooth as long as outer. Mesothoracic femur with scattered rows of long white setae. Tibia with spiniform medial carina on outer surface, apically with two slender spurs. Metathoracic femur with dense long white hairs on anterior margin, few scattered hairs elsewhere. Tibia with broken spiniform carina on outer face. Corbel with tarsal articulation extended, rising above plane of corbel. Corbel surrounded by fringe of spinules; with two apical spurs, one on either side of channel extending from posterior margin to tarsal articulatory socket. *Male genitalia*: Figure 4.

Allotype female.—Length 14 mm, width (elytral humeri) 5.5 mm. Differs from holotype as follows: Front vertex less punctate, vertex with two well marked depressions. Antennal club shorter, subequal to scape; basal segment only half as long as the other four segments. Elytra proportionately broader (width/length = 0.375, male; 0.421, female). Abdomen massive, much larger than male (see Figs.).

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FIGS. 1-3. *Phobetus chearyi*. FIG. 1. Holotype male. FIG. 2. Allotype female. FIG. 3. Male antennal club showing five segments.



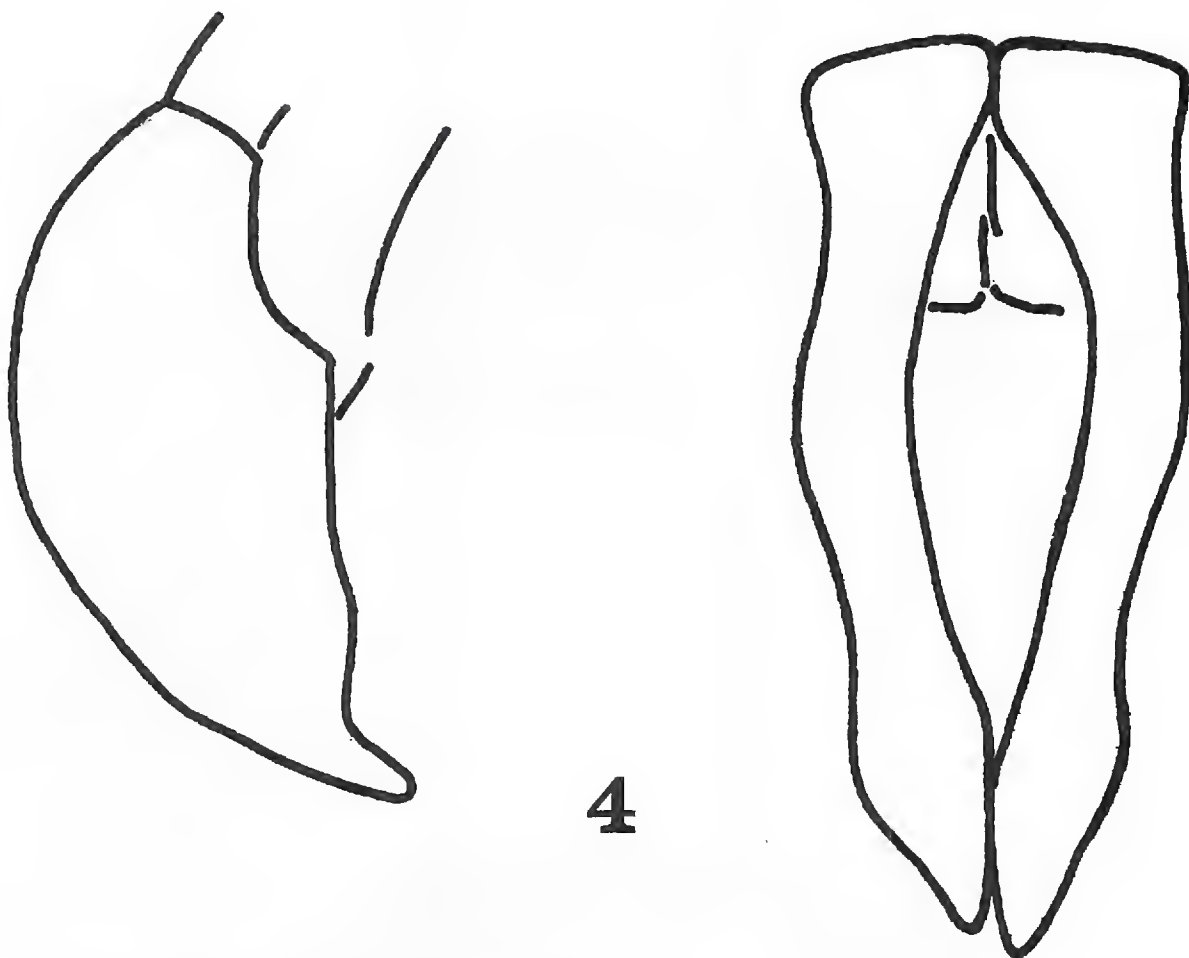


FIG. 4. *Phobetus chearyi*, male genitalia.

VARIATION IN PARATYPES.—Length 11 mm–12.5 mm. Variation appears to be slight, most notable differences are in the coloration and width of the marginal bands of the elytra, the holotype falling at about the midpoint of the range.

DIAGNOSIS.—Best diagnosed on the basis of the five segmented antennal club, but the long pale pubescence and uniformly light coloration make this species easily recognizable.

Holotype male (CAS #11,658), and seven male paratypes, BEACH DUNES, 32 MI. S. SAN FELIPE, BAJA CALIFORNIA NORTE, MEXICO, 25 April, 1970, A. R. Hardy and B. S. Cheary. Allotype and 19 male paratypes, same locality on 6–7 May. Known only from the type locality. Paratypes are deposited in the following collections: California Academy of Sciences, United States National Museum, Canadian National Collection, Museum of Comparative Zoology, American Museum of Natural History, Los Angeles County Museum of Natural History, and the collections of the following individuals: Henry F. Howden, Robert W. Woodruff, Robert W. L. Potts, Brian S. Cheary, and the author.

I take great pleasure in naming this species for Dr. Brian Cheary,

in recognition of his help in collecting the type series, and his fine work as a coleopterist.

The type series was collected on desert sand dunes that were within a few hundred feet of the Gulf of California. In this area the desert vegetation comes right to the beach at the edge of the gulf, where through wind and wave action the sand as been piled into dunes approximately 20 to 30 feet high, and for about one-quarter mile in width. Typical desert vegetation characteristic of the Sonoran Desert, and especially Creosote and Bunch Grass are spotted throughout the hollows and washes of these dunes. The area is fairly rugged and at least five miles of four-wheel drive terrain isolates it from the nearest road. The beetles were collected as they flew into blacklights placed upon the dunes. The individuals would alight upon the sheet and within a very few seconds would rapidly take wing and disappear into the dark. It was thus necessary to sit at each sheet for the flight period with a net, in order to capture the specimens upon their brief visit. The period of activity lasted no more than one-half hour any of the three evenings spent on the dunes, and rapidly ceased as twilight disappeared. The lone female was found crawling on the sand at the base of a large bush, and was not observed to fly, if indeed such a thing is possible for such a large, apparently heavy individual. Extensive sifting of the dunes failed to locate either adults or larvae, and no additional females were collected, although special effort was made to find any present.

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